

Reteaching Worksheet

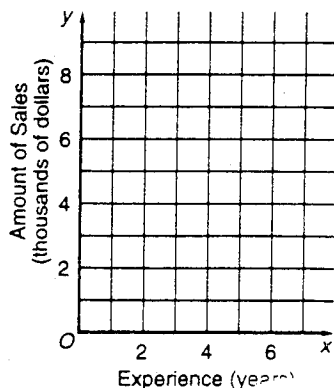
Scatter Plots and Predictions

One method for analyzing data is the **scatter plot**. A scatter plot shows visually the nature of a relationship, both its shape and dispersion. A line may be drawn to show the approximate relationship formed by the plotted points. By choosing several points on the lines, you can find the equation of the line. This equation is called the **prediction equation** of the relationship.

- According to a certain prediction equation, the cost of 200 square feet of storage space is \$60. The cost of 325 square feet of storage space is \$160. Let x stand for the amount of storage space in square feet and y stand for the cost in dollars.
 - What is the independent variable?
 - What is the dependent variable?
 - Find the prediction equation.
 - Find the slope of the prediction equation.
 - Predict the number of square feet for storage space costing \$44.
- The table below shows the sales for eight encyclopedia sales representatives during a given period and the years of experience each representative has.

Amount of Sales	\$9000	\$6000	\$4000	\$3000	\$3000	\$5000	\$8000	\$2000
Years of Experience	6	5	3	1	4	3	6	2

- Draw a scatter plot to show how experience and sales are related. Draw a line along which the points seem to cluster.
- Write a prediction equation to show how amount of sales (y) and years of experience (x) are related.



- Predict the commission for a person who has 8 years of experience.
- Predict the years of experience for a representative who sells \$7300.

Practice Worksheet

Scatter Plots and Prediction Equations

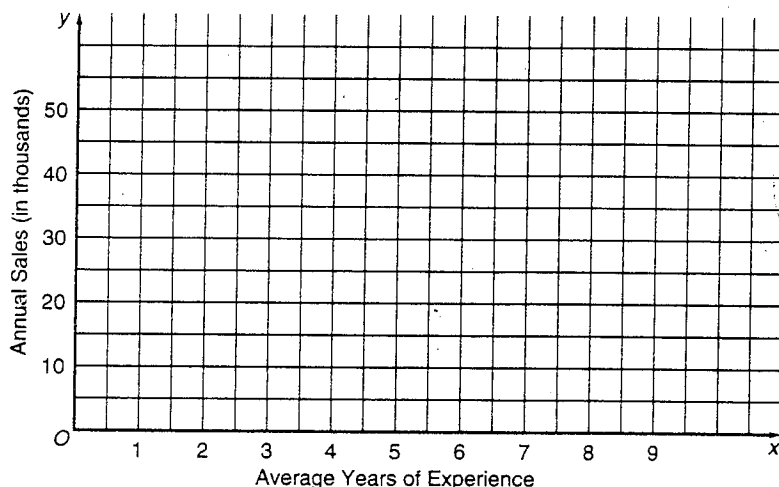
According to a certain linear prediction equation, a person 25 years old needs 2400 calories of food intake a day. A person 30 years old needs 2300 calories. Let x stand for age in years and y stand for calories.

1. Find the slope of the prediction equation.
2. Find the y -intercept of the prediction equation. What does it measure?
3. Find the prediction equation.
4. Predict the caloric needs of a person who is 34 years old.

The Cody Company ran a study on its sales force and learned that the average number of years of experience for each sales team was in direct relation to annual sales volume. Use the data below to answer the following.

Annual Sales (in thousands)	46	35	51	42	33	50	30
Average Years of Experience	6	4	8	5.5	3	7	2.5

5. Draw a scatter diagram to show how years of experience per sales team and annual sales are related.



6. Find a prediction equation to show how years of experience and annual sales are related.